

§ 173.413

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outer containment components designed to enclose the liquid contents completely and ensure retention of the liquid within the secondary outer component in the event that the primary inner component leaks.

(1) Each package designed for gases, other than tritium not exceeding 40 TBq (1080Ci) or noble gases not exceeding the A₂ value appropriate for the noble gas, will be able to prevent loss or dispersal of contents when the package is subjected to the tests prescribed in § 173.466 or evaluated against these tests by any of the methods authorized by § 173.461(a).

[Amdt. 173–244, 60 FR 50307, Sept. 28, 1995, as amended by 66 FR 45379, Aug. 28, 2001; 68 FR 57633, Oct. 6, 2003; 79 FR 40612, July 11, 2014]

§ 173.413 Requirements for Type B packages.

Except as provided in § 173.416, each Type B(U) or Type B(M) package must be designed and constructed to meet the applicable requirements specified in 10 CFR part 71.

§ 173.415 Authorized Type A packages.

The following packages are authorized for shipment if they do not contain quantities exceeding A₁ or A₂ as appropriate:

(a) DOT Specification 7A (see § 178.350 of this subchapter) Type A general packaging. Each offeror of a Specification 7A package must maintain on file for at least two years after the offeror's latest shipment, and shall provide to DOT on request, one of the following:

(1) A description of the package showing materials of construction, dimensions, weight, closure and closure materials (including gaskets, tape, etc.) of each item of the containment system, shielding and packing materials used in normal transportation, and the following:

(i) If the packaging is subjected to the physical tests of § 173.465, and if applicable, § 173.466, documentation of testing, including date, place of test, signature of testers, a detailed description of each test performed including equipment used, and the damage to each item of the containment system resulting from the tests, or

(ii) For any other demonstration of compliance with tests authorized in § 173.461, a detailed analysis which shows that, for the contents being shipped, the package meets the pertinent design and performance requirements for a DOT 7A Type A specification package.

(2) If the offeror has obtained the packaging from another person who meets the definition of "packaging manufacturer" in § 178.350(c) of this subchapter, a certification from the packaging manufacturer that the package meets all the requirements of § 178.350 for the radioactive contents presented for transport and a copy of documents maintained by the packaging manufacturer that meet the requirements of paragraph (a)(1) of this section.

(b) Any other Type A packaging that also meets the applicable standards for fissile materials in 10 CFR part 71 and is used in accordance with § 173.471.

(c) Any Type B(U) or Type B(M) packaging authorized pursuant to § 173.416.

(d) Any foreign-made packaging that meets the standards in the "IAEA Regulations for the Safe Transport of Radioactive Material, SSR-6" (IBR, see § 171.7 of this subchapter) and bears the marking "Type A". Such packagings may be used for domestic and export shipments of Class 7 (radioactive) materials provided the offeror obtains the applicable documentation of tests and engineering evaluations and maintains the documentation on file in accordance with paragraph (a) of this section. These packagings must conform with requirements of the country of origin (as indicated by the packaging marking) and the IAEA regulations applicable to Type A packagings.

[Amdt. 173–244, 60 FR 50307, Sept. 28, 1995, as amended at 67 FR 61014, Sept. 27, 2002; 68 FR 75742, Dec. 31, 2003; 69 FR 3673, Jan. 26, 2004; 69 FR 55117, Sept. 13, 2004; 79 FR 40612, July 11, 2014; 80 FR 1163, Jan. 8, 2015; 85 FR 83401, Dec. 21, 2020]

§ 173.416 Authorized Type B packages.

Each of the following packages is authorized for shipment of quantities exceeding A₁ or A₂, as appropriate:

(a) Any Type B(U) or Type B(M) packaging that meets the applicable

requirements of 10 CFR part 71 and that has been approved by the U.S. Nuclear Regulatory Commission may be shipped pursuant to § 173.471.

(b) Any Type B(U) or B(M) packaging that meets the applicable requirements in “IAEA Regulations for the Safe Transport of Radioactive Material, SSR-6” (IBR, see § 171.7 of this subchapter) and for which the foreign Competent Authority Certificate has been revalidated by DOT pursuant to § 173.473. These packagings are authorized only for export and import shipments.

(c) A package approved by the U.S. Nuclear Regulatory Commission under a special package authorization granted in accordance with 10 CFR 71.41(d) provided it is offered only for domestic transportation in accordance with the requirements in § 173.471(b) and (c).

[69 FR 3673, Jan. 26, 2004, as amended at 79 FR 40612, July 11, 2014; 80 FR 1163, Jan. 8, 2015]

§ 173.417 Authorized fissile materials packages.

(a) Except as provided in § 173.453, fissile materials containing not more than A_1 or A_2 as appropriate, must be packaged in one of the following packagings:

(1)(i) Any packaging listed in § 173.415, limited to the Class 7 (radioactive) materials specified in 10 CFR part 71, subpart C;

(ii) Any Type AF, Type B(U)F, or Type B(M)F packaging that meets the applicable standards for fissile material packages in 10 CFR part 71; or

(iii) Any Type AF, Type B(U)F, or Type B(M)F packaging that meets the applicable requirements for fissile material packages in Section VI of the International Atomic Energy Agency “Regulations for the Safe Transport of Radioactive Material, SSR-6 (IBR, see § 171.7 of this subchapter),” and for which the foreign Competent Authority certificate has been revalidated by the U.S. Competent Authority, in accordance with § 173.473. These packages are authorized only for export and import shipments.

(2) A residual “heel” of enriched solid uranium hexafluoride may be transported without a protective overpack in any metal cylinder that meets both the requirements of § 173.415 and § 178.350 of this subchapter for Specification 7A Type A packaging, and the requirements of § 173.420 for packagings containing greater than 0.1 kg of uranium hexafluoride. Any such shipment must be made in accordance with Table 2, as follows:

TABLE 2—ALLOWABLE CONTENT OF URANIUM HEXAFLUORIDE (UF₆ “HEEL” IN A SPECIFICATION 7A CYLINDER)

Maximum cylinder diameter		Cylinder volume		Maximum Uranium-235-enrichment (weight) percent	Maximum “Heel” weight per cylinder			
		Liters	Cubic feet		UF ₆		Uranium-235	
Centi-meters	Inches				kg	lb	kg	lb
12.7	5	8.8	0.311	100.0	0.045	0.1	0.031	0.07
20.3	8	39.0	1.359	12.5	0.227	0.5	0.019	0.04
30.5	12	68.0	2.410	5.0	0.454	1.0	0.015	0.03
76.0	30	725.0	25.64	5.0	11.3	25.0	0.383	0.84
122.0	48	3,084.0	¹ 108.9	4.5	22.7	50.0	0.690	1.52
122.0	48	4,041.0	² 142.7	4.5	22.7	50.0	0.690	1.52

¹ 10 ton.

² 14 ton

(b) Fissile Class 7 (radioactive) materials with radioactive content exceeding A_1 or A_2 must be packaged in one of the following packagings:

(1) Type B(U), or Type B(M) packaging that meets the standards for packaging of fissile materials in 10 CFR part 71, and is approved by the

U.S. Nuclear Regulatory Commission and used in accordance with § 173.471;

(2) Type B(U) or Type B(M) packaging that also meets the applicable requirements for fissile material packaging in Section VI of the International Atomic Energy Agency “Regulations for the Safe Transport of Radioactive Material, SSR-6,” and for